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FOUR NEWSPAPER ARTICLES ON THE AMUR RIVER AND BASINAGREEMENT BETWEEN THE USSR AND CPR ON RESEARCH WORKS IN THE  
AMUR RIVER BASIN

Izvestiya Sovetov deputatov  
trudnyashchikhsya SSSR  
[News of the Soviets of  
Deputies of the Workers of  
the USSR], No 198, 19 August  
1956, Moscow, Page 4

Unsigned Article

Peiping, 18 August (Tass [Telegrafnoye agentstvo SSSR -- Telegraph Agency of the USSR]). An agreement was signed today in Peiping between the Soviet Union and the Chinese People's Republic concerning the carrying out of scientific research works in the Amur River basin in order to ascertain the natural resources and the prospects for developing the productive forces of that region and to carry out preliminary and exploratory operations for drawing up a plan for the combined use of the waters of the Argun River and the upper current of the Amur river.

According to the agreement, in 1956-1960 the following measures will be carried out: joint operations to study natural conditions; geological and hydroelectric research aimed at regulating the water; the improvement of navigation conditions; the construction of hydroelectric stations; the development of fishing; and other research.

THE AMUR RIVER AND THE AMUR RIVER REGION

Promyshlenno-ekonomicheskaya  
gazeta [Industrial-Economic  
Newspaper], No 60,  
17 June 1956, Moscow, Page 2

A. Prostov,  
Hydraulic Engineer

Father Amur, that is what the Soviet nation lovingly and respectfully calls the largest river in the Far East; this did not happen accidentally. Like a thoughtful and good father, it has granted to its charges, to people, inexhaustible and the most varied natural wealth.

The beauty of the Volga in the area of Zhiguli is generally acknowledged but the Amur and its tributaries have even more beautiful and picturesque places in many parts.

The Amur basin occupies an area of about 200,000 ha, stretching thousands of kilometers from west to east and north to south. This territory is so great that it could easily contain such countries as England, France, Italy, Germany, Austria, and Switzerland taken together.

On vast areas of the basin there are also mighty massifs of taiga forests and areas of arable land which are majestic in their extent and possibilities. The vegetable kingdom of the Amur region is distinguished by its extreme variety. The forests and meadows are populated by wild animals. There is an especially large number of wild goats here. The lakes abound in water birds.

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With respect to the number of different species of fish, the Amur occupies first place among the rivers of the Soviet Union; about 100 species of fish live in it. Here in one and the same spot one may catch several species of salmon, carp, crucian, bream, sturgeon, and many other fish indigenous only to the Amur, Verkhoglyad, Amur, Tolstolob, and others.

The Amur and its tributaries constitute a mighty river system. It is possible to use up to 20,000 km for navigation.

With respect to the volume of water carried, the Amur yields somewhat only to the Yenisey, Lena, and Ob'. Its average yearly expenditure of water is 1.4 times more than the Volga River.

The innermost areas of the Amur region are still little explored, but already we know of major deposits of coal, iron, graphite, antimony, gold, tin, and other rare metals.

Attaching special importance to the economy of the Amur region, the party and government have continuously applied their efforts toward the complete development of the area. During the years of the Soviet leadership the territory has unrecognizably changed. A large number of new cities and villages have sprung up. A large variety of industrial enterprises have been built along the entire course of the Amur. Railroad, water, and other types of transport have increased considerably. A major center of the metallurgical industry was created from scratch in the city of Komsomol'sk. A very great deal has been accomplished but it must, however, be acknowledged that only the first steps have been taken with respect to the mastery of the Amur region and that its principal resources have not yet been discovered or begun to be completely utilized.

The Twentieth Congress of the KPSS [Kommunisticheskaya partiya Sovetskogo Soyuza -- Communist Party of the Soviet Union] set forth the task of accelerating the mastery of the rich natural resources of the eastern regions of the country, including the Amur region. In the Sixth Five-Year Plan the volume of capital investments in the national economy of the basin is considerably more than in the Fifth Five-Year Plan. The volume and rates of capital works in the territory will continue to increase in the future. This accelerates the necessity of immediately solving a number of urgent questions involved in the search for the most efficient placement of productive forces in the territory to complete the development of the territory.

Until the present time the principal efforts have been concentrated on developing only one center of metallurgical industry in the city of Komsomol'sk. Is this wise? Wouldn't it be better to begin immediately to create a second such industrial center in the region of the Middle Amur, where there are rich deposits of coal and iron and great hydroelectric resources? This would cut down the shipments of ore and fuel by approximately 1,000 km and bring industrial enterprises closer to sources of raw material and consumption.

A region which attracts still more attention with respect to industrial development is that region situated between the Upper Amur and the Zeya River, which abuts with the region of the richest southern deposits of coal and iron in Yakut ASSR. Those regions could profitably be mastered in one overall plan by creating the Soviet Union's fourth metallurgical base here. In the Sixth Five-Year Plan the foundations will be laid for the creation of the third metallurgical base in the USSR, the Angara-Yenisey industrial region. In the Seventh Five-Year Plan it will also be necessary to begin to carry out measures to prepare for the creation of the fourth metallurgical base of the USSR -- the creation of the

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Aldan-Amur industrial region, based upon the richest reserves of iron ore of the Amur and Aldan region and the south-Yakut coking coals. The most urgent and first-priority measures for preparing for the mastery of that region must include the creation of a power base and the laying of railroads connecting the coal and ore deposits with the Amur mainline. The time has come to lay the steel tracks of a new railroad mainline here, along the automobile road from the station of Bol'shoy Never to the city of Yakutsk.

The development of industry and agriculture in the territory can be carried out at the required rates and in the required directions only if those branches of the economy are guaranteed a corresponding power base which, apropos, is so weak now that it does not satisfy the vital need of today. The supplying of power is the chief factor for increasing labor productivity and lowering the net cost of production, not only when enterprises are being built, but also when they are being operated. This is obvious to all, but there is still very little being done to improve the situation. A well worked-out technical diagram and plan for the placement and construction of electric power stations in the basin have not yet been created. The Academy of Sciences USSR and the Ministry of Electric Power Stations USSR have only recently begun to engage in such operations. In the Amur region there may be repetitions of the situation observed formerly in the European part of the Soviet Union, when industrial enterprises were created either simultaneously or sometimes even earlier than the electric power stations providing them with electric power. That practice was censured by the Twentieth Congress of the KPSS and it must not be repeated. The creation of a power base must outstrip somewhat in time the development of other branches of the national economy of the territory. What must be done to achieve that situation in the Amur region?

First of all, it is necessary to construct along the Amur mainline several mighty regional thermoelectric power stations located close to the coal deposits, the Raychikha, Bukachacha, and other deposits. These thermoelectric stations will help to satisfy the vital needs of local industry, to electrify the railroads, and to supply current to the largest construction projects.

But in our opinion it will be possible to solve fundamentally and most efficiently the problem of electrifying the Amur region in the near future only by making wide utilization of its hydroelectric resources. The preliminary calculations and study of that matter show that it is possible to build on the Amur and its tributaries, the Zeya and the Bureya, major hydroelectric stations with high technical and economic efficiency and an overall capacity of more than 10 million kw. The building of hydroelectric stations solves simultaneously, in complex, a number of tasks involving power engineering, the fight against high floodwaters, the development of water transport, etc. Hydroelectric complexes erected on the upper and middle Amur would also touch upon the interests of China and their construction would be a manifestation of the friendship of the 2 great nations. Therefore the selection of the place, type, and time of constructing them must be approached with special caution and attention.

In order to satisfy the needs of the Aldan-Amur region of the metallurgical industry it is possible to build 5-6 hydroelectric complexes on the upper Amur and Zeya with a total capacity of up to 5 million kw. First of all, it would be desirable to construct 2 high-pressure hydroelectric stations: the first one on the Amur, below the confluence of the Shilka and Argun Rivers (in the area of the village of Dzhalinda), and the second one on the Zeya, in the mountain ravine near the city of Zeya. These hydroelectric complexes not only would yield a large amount of

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electric power, but would also regulate the runoff of the upper reaches of the rivers, would reduce high floodwaters, and improve navigational conditions for considerable distances.

The central Amur industrial region could be supplied with electric power by building one large-scale hydroelectric complex on the Amur and 1 to 2 hydroelectric station on the Bureya. The overall capacity of those hydroelectric stations would be about 3 million kw. The national economy is receiving the greatest benefit by the construction of the Malo-Khinganskaya hydroelectric station on the Amur. It is necessary also to find out more about the possibility of using the geothermal heat of the hot springs of Birobidzhan to obtain electric power.

The construction of hydroelectric complexes on the Lower Amur causes considerable inundations of the bottomland and requires that excavation and concrete operations be carried out on a broad scale. Nevertheless we think that it is better to suffer such losses and do such work than to mine coal year after year in tremendous quantities and ship it from a distance to the area around the city of Komsomol'sk. We are convinced that from the point of view of the national economy those hydroelectric complexes will prove to be more profitable than, for example, the Cheboksary hydroelectric station which has been planned for construction on the Volga. The prospects of building a hydroelectric power station on the Amur close to the city of Komsomol'sk is especially alluring.

The construction of large-scale industrial projects and hydroelectric complexes in the Amur region must not be approached with the same yardsticks or the same organizational methods which were used in the European part of the Soviet Union and at several projects in Siberia. Until the present time, by trying to cut down the total construction periods, attempts have been made to begin almost simultaneously all the operations on the hydroelectric complex being constructed. This led in the final analysis to assault tactics in construction and, as a result, to the inevitable carrying out of a considerable number of unnecessary operations, but most of all, to the lowering of labor productivity and to the raising of the construction costs. This led to a situation in which, during the first years, whole tent cities existed at the construction sites and the builders had to undergo serious inconveniences in their everyday life. The time has come to reexamine and change that type of operational organization at large-scale construction projects, since under the conditions of basins in the Far East the negative aspects of that type of organization would have a still greater effect as a result of the fact that those areas are less populated and less built-up. Whereas on the Volga, Dnepr, and Don during the initial period of the construction of hydroelectric complexes it was possible to make use of many sidings, housing settlements, and other services which were already in existence in the built-up areas. Conditions at Amur offers no such opportunities.

In our opinion, it is expedient in the eastern regions to change over to the cyclical method of constructing large-scale projects. The essence of that method comes down to having all operations broken down into 3 principal periods of time for carrying them out: the cycle of preparatory operations (roads, housing, power and machine-repair base); the cycle of basic operations to raise the structures and install the equipment; and the cycle of completion operations.

Every group of builders must have no fewer than 2 projects in order to be able simultaneously to finish the basic operations on one project and begin on another. This would have a favorable effect upon the entire course of construction and would lead to a reduction in the time required to carry

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It is clear from the directives of the Twentieth Congress of the KPSS that the Far East is on the threshold of its greatest industrial development and the resultant large-scale construction of power installations. Some of the Amur hydroelectric power stations must begin operating during the Seventh Five-Year Plan, and that means that the time to begin preparing their construction sites is now. The Ministry of Electric Power Stations USSR apparently is underestimating that fact and for that reason is not hurrying to begin operations.

The Amur region is a land of the greatest natural wealth and of inexhaustible possibilities. One senses here, more strongly than anywhere else, the need for an influx of young patriots full of creative daring. Here, more fully than anywhere else, they can apply their young efforts on the most varied fields of human activity aimed at the development of life in all its variety. It is a wonderful land which bewitches everyone who comes here and makes him its ardent patriot for the rest of his life.

#### STUDIES OF THE AMUR RIVER

Vodnyy transport  
[Water Transport],  
No 95, 11 August 1956,  
Moscow, Page 4

Unsigned Article

#### Joint Operations of Chinese and Soviet Scientists

A group of Chinese scientific workers, members of the Amur Joint Expedition of the Academy of Sciences USSR and the Chinese Academy of Sciences, has arrived in Vladivostok. The Chinese scientists, in collaboration with Soviet specialists, will work on problems of regulating the hydrological regime of the rivers of the Far East, particularly the Amur, and on the solving of a number of problems involving hydroelectric power, soil, and transport.

The Chinese scientists have met the workers of the Far Eastern Branch of the Academy of Sciences USSR, and discussed with them the draft plan for creating a water route from the middle current of the Amur, via the Ussuri River, Lake Khanka, and the Suifun River, to the Amur Bay.

#### THE FUTURE OF THE AMUR RIVER

Sovetskaya Rossiya  
[Soviet Russia],  
No 21, 25 July 1956,  
Moscow, Page 4

G. Burets,  
Sovetskaya Rossiya  
Correspondent

#### The Collaboration of Soviet and Chinese Scientists

Khabarovsk. The Amur is one of the largest rivers on the earth. The Amur attracted the attention of scientists long ago. After the formation of

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the Chinese Peoples Republic the interest in the Amur began to become even more intense. Now the river does not divide, but joins the two great friendly states.

Joint scientific expeditions of the Academy of Sciences USSR and the Academy of Sciences, Chinese People's Republic are now working on the Amur and its tributaries.

Soviet and Chinese geologists, power engineers, geographers, and transport men are engaged jointly in scientific research. Their program is planned for several years. The scientists are to prepare data which will aid to solve a number of important problems linked with the development of the national economy in the Amur basin.

This program involves increasing the amount of regular navigation, measures of combatting floods, and ways of utilizing hydroelectric resources. According to preliminary data, it is completely possible to build on the Amur a cascade of large-scale hydroelectric power stations which do not yield, with respect to their capacity, to the hydroelectric power stations on the Volga. The constructions of those hydroelectric complexes will make it possible to change the inconstant regime of the rivers of the Far East and to improve navigation conditions considerably.

The expedition is confronted with other interesting and large problems. The Amur is poorly linked with the ocean. It empties into the shallow Amur estuary, which is covered with ice for a long period of time and is extremely inconvenient for navigation. The scientists must answer the question of whether it is possible to force the Amur to empty, via Lake Bol'shoie Kizi, into the Gulf of Tatory closer to the deep Sea of Japan. It is also necessary to ascertain whether it is possible to join the Amur to the sea in the area of Vladivostok by using for that purpose the navigable Ussuri River and Lake Khanka.

A few days ago transport detachments of the expedition headed by Candidate of Sciences in Technology A. Sadchikov and engineer Lu Tszhu-Chzhou arrived in Khabarovsk.

The leader of the group of Chinese specialists, Comrade Lu Tschu-Chzhou, answering the questions of the Sovetskaya Rossiya correspondent, said, "Together with Soviet specialists we must study in detail the regions adjacent to the Amur River, which in Chinese is called Heilungkiang, or 'River of the Black Dragon.' We must study the water routes and other means of communication, in order to have an idea of the commodity flows which have developed here and those directions which they might take in the future. The detachment consists primarily of transportation specialists, waterway engineers, and hydraulic engineers.

"We began our study of Heilungkiang at the Hei Ho, which is opposite Blagoveshchensk, on the other bank of the river. Going downstream, we and the Soviet specialists visited all the places of interest to us on the Chinese and Soviet banks.

"It is with exceptional interest that we became acquainted with the Amur kolkhozes. The life that the Soviet kolkhoz farmers are living today is the life that Chinese peasants will be living tomorrow."

The director of the detachment of Soviet specialists, Candidate of Sciences in Technology A. Sadchikov, said, "Together with the Chinese detachment we have been working on problems of the transport utilization of the Amur, its principal tributaries, and the means of communication adjacent

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to it. 2 Organizations have been taking part in that work, the Institute of Joint Transport Problems, of the Academy of Sciences USSR, and the Peiping Transport Institute, of the Academy of Sciences of the Chinese People's Republic.

"It is still too early to speak about the results of our detachment's operations. There is just one thing I can say, the close collaboration of Soviet and Chinese scientists will make it possible to solve more rapidly and more efficiently the problems of utilizing the Amur basin."

In a few days the transportation detachments of the Amur Joint Expedition will be leaving down the Ussuri River to Lake Khanka.

FIGURE CAPTION

[Page 4 of original]

Khabarovsk. On the bank of the Amur. (Photograph by G. Lozhkin)

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